Frankly Speaking

A Switch in Thinking

DURING the past few years, there has gradually come about a switch in thinking regarding traffic. Where the emphasis was formerly on rural highways, it has been shifted and is now focused on urban traffic. The reason is that practically all traffic originates in, goes through, or is destined for urban areas. Very little traffic wants to be by-passed around cities.

Fitting into the "switch in emphasis" picture is the recently passed Federal-Aid Highway Act, which operates on a new apportionment formula, favoring urban areas much more than ever before. The Act authorizes 1½ billion dollars of Federal aid, to be matched by an equal amount of State money, for highway construction and improvement in the first three post-war years. Roughly half of this money will end up in urban highways.

This Act plus other subjects related to urban traffic problems will be ably discussed by national authorities in next month's special "City Arterials" issue of TRAFFIC ENGINEERING. Other articles will deal with origin and destination surveys, planning freeways, parking, and handling traffic on existing arterials. Triple the regular distribution of this special issue will be made, in order to reach every traffic offical in the Nation. The subject is timely. It is one that deserves and is getting the concentrated attention of traffic authorities everywhere.

According to the best-informed forecasters, we can expect a 100% increase in highway traffic m. v. miles by 1960. It is our job in the intervening years, as the profession of traffic engineers, to aid our Nation in attainment of this magnificent growth in transportation by learning to understand the ageless enemies, accidents and congestion, and by learning better how to move people and goods swiftly, safely, and comfortably, particularly into and out of cities.

Henry Evans

Editor

VOLUME XV APRIL, 1945 NUMBER 7

Design of Signs for the Pentagon Road Network

by D. W. LOUTZENHEISER, *Assoc. I.T.E.*
Highway Engineer, Public Roads Administration

THE road network around the War Department Pentagon Building in Arlington, Virginia, is a system providing arterial connections from all important streets and highways on the Virginia side of the Potomac River to the three main bridges to Washington, D. C. This system also provides access from all directions to the Pentagon Building, its two large parking areas and to the other governmental units nearby.

The facilities designed and constructed directly by Public Roads Administration consists of 17 miles of one-way through roads, 7.7 miles of one-way ramps, 21 grade separation structures (one of which provides for highway traffic at three levels), and 2.3 miles of local service road. These lengths are exclusive of the roads built by the War Department, which largely are within the triangle of main roads around the building.

There were at least 85 points on the major network that required principal directive signs, in addition to numerous positions where auxiliary or minor signs were necessary. A total of 401 separate signboards were required for the system as above enumerated including all major signs for high-speed through traffic and for the outlying street connections. In addition about 100 signs of a distinctive pentagonal shape have been erected by the War Department to direct traffic to the building and on the service roads and parking areas.

All principal signboards were made of plyform, fabricated and painted in government shops. Signs on the through roads were deemed of sufficient importance to warrant treatment for night visibility. Samples of several reflecting materials were obtained and after brief trial examinations and cost estimates it was concluded to utilize glass beaded reflector faces on all principal signs. An arrangement was concluded with the manufacturer to deliver the reflecting material in suitable sizes for shop mounting with legend stenciled as prescribed for each sign. These reflector sheets were manually mounted to the fabricated boards through use of a separate adhesive coat, and rolled to seal the material into final position.

The signs provided were largely guide signs indicating alternate destinations at road forks and small traffic control signs. These were made as black legends on white background for both reflectorized and plain painted signs, and varied in size from about 2x2 feet to 4x8 feet. In several places diamond-shape caution signs were used with black letters on yellow background; all these were reflectorized. Three pairs of important signs, each about 5x10 feet, were suspended overhead from a central mast. On these, silver reflector faces were used, because this color has a greater reflectivity.

Condensation was prepared by the author from a previous paper on the subject, appearing in the Proceedings of the Highway Research Board, Volume 23, 1943.

All signs, except those overhead, were mounted on 4″x5″ posts. Signs up to about 4 feet in length were mounted on a single post and larger ones were mounted on two posts. Several "pair" mountings were three-post combinations.

Sign Legends

To properly provide for all traffic it was necessary to consider sign messages for three distinct types of users: (1) through traffic with origin or destination, or both, beyond the vicinity of Washington, D. C.; (2) local traffic passing through the area; and (3) workers with destination at one of the Government buildings within the network area. The first group of users was not acquainted with or interested in local names or major streets; their interest was in route markings and major cities beyond this area. The second group was not interested in route markings but was seeking direction in terms of names of local places, streets or highways. Neither of these two groups was concerned with direction to or from the Pentagon and other buildings in the area, but such messages were the chief concern of the third group. Because of operator turnover it was necessary to make clear proper routes for both buses and taxis. Thus careful study was required not only to determine the legend for individual signs but to establish a sequence of messages along the several major routes that would properly emphasize the distinction needed for the different groups of traffic.

A basic control was to use as few signs as possible and on each sign to use the shortest legend possible for the message. It was concluded that a maximum of three lines of copy should be used on each board. Where a 2-way direction legend was needed at an important road fork, two separate signboards were used, each with the legend and arrow for one direction ahead. Signs with two or three legend lines were in general arranged with the through traffic legend as the top line and the legend for traffic terminating within the network area as the bottom line. Other conditions being the same, preference was given to through traffic legends, either lines or groups of lines on separate boards, by placing them above those for turning traffic.

Rounded Letters Used

Rounded letter alphabets of a tentative design were used on 360 signs. Detail dimensions of these letters and numerals had not yet been prepared, but preliminary outlines were secured and from them copies of the individ-

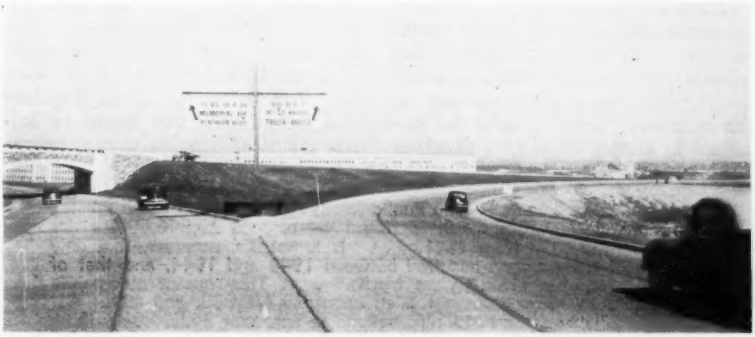


Figure 1.—View of overhead signs on "mixing" road on Pentagon system.

ual letters were prepared as guide tracings. All letters used were made as "blowups" of these guides. As far as is known this is the first field experience with the proposed rounded alphabets.

For use in designing the sign layouts a tabulation was prepared for each of the three series used, listing the width of letter or numeral as scaled on the guide tracing for a 22-inch height letter and proportional widths for letter heights of 3, 4, 5, 6, 8, 10, and 12 inches. In the table appear the alphabet tabulation for the "D" series, which was the most frequently used. It was assumed that stroke, width, curves, spacing and legibility of letters of the same series were in direct proportion to their height.

Considerable study was given to the spacing between letters in order to determine a simple usable basis for arriving at word lengths. It had been concluded that the signs were to be "designed" to provide a message of prescribed legibility. This meant using a certain height and series letter, and with a given alphabet or letter width it remained only to prescribe a spacing beween letters in order to determine word lengths. For this purpose it was necessary to consider the effect of different shape letters and it was concluded that an average spacing rather than an exact spacing for each possible combination of letters would be sufficiently accurate. After trials with sample words it was concluded that a satisfactory letter spacing of the accuracy desired could be expressed in simple terms as a function of stroke dimension (for the alphabets used) and four general shapes of letters—straight side, rounded side, slant and open, as shown in the table. The two right columns of the table show the shape for each side of each letter by a Roman numeral code. The lower four lines show the spacing value for various combinations of these adjacent strokes. The four spacing dimensions adopted for each height letter, are 120 per cent, 90 per cent and 60 per cent of the stroke dimension and a zero value.

Letter Height Related to Design Speed

A chief aim for the signs of this network was the provision of legends large enough for legibility consistent with the likely speeds of travel and the location of such signs as to be effective during peak hour traffic flow. A review of available data on legibility of signs and required warning time of distance led to the adoption of letter height controls to provide a warning time of 5 to 7 seconds for vehicles traveling at the design speed of the highway, or 7 to 10 seconds for vehicles traveling at about the average speed. Thus for series "D" letters a letter height of 1½ to 2 inches for each 10 mph increment of highway speed was used.

A further check was made on the desired height of letter for each important sign by either a site examination or a plan study and a letter height consistent with available sight distance was then selected. Though minor modifications of letter height to balance a sign as a whole were occasion-

★ ★ ★

Vehicle Registration—The Public Roads Administration has estimated that motor vehicle registrations during 1944 reached 29,846,000, a decrease of 4,626,000 from 1941. . . . "It is notable, however, that only 654,000 of the decrease occurred between 1943 and 1944, and that of the 654,000, only 11,000 were trucks." . . . They expect automobile registrations in 1944 to have totaled about 25,270,000, and state: "It is reasonable to expect 1945 registrations to approach 24,500,000, if no new cars are available, and to exceed that figure if a considerable number of new cars are produced."

ally required, the governing rule established the height of a letter to fit road conditions and other elements in the sign design were subordinated.

For the most part, principal legends were made 8-inch letter heights, with some use of 10-and 12-inch letters. Secondary legends were largely of 6-inch letters.

Figure 2.—Typical board and legend details.

Arrows Adapted to Legends

Preliminary studies led to the conclusion that to be fully effective all arrows used should be of a size and position so as to be distinct and obvious at a distance just beyond that for the letter legibility of the sign. All arrows were placed on the same side of the board that vehicles would pass to follow the message and were tilted upward at a slope reasonably consistent with the direction to be followed as viewed by the driver first reading the sign message. After study of several shapes and sizes and field examinations with sample words it was concluded to use arrows in the following proportions: head 6 inches long and 8 inches wide, stem 2 inches wide and 8 to 15 inches long. This size was used with legends of 6-inch letters; arrows 50 percent larger were used with 8-inch letters, and double size for 10-and 12-inch letters.

Panel and Edge Spacing

In order to develop board sizes to carry desired legends it was necessary to adopt certain ratios or dimensions for the clearance above and below lines of legend and for right and left edge clearances. These controls were established at ratios of letter heights as follows:

Edge clearance (top, bottom and sides)—2/3 to 7/8 of letter height
Spacing between words—3/4 of letter height
Panel spacing between lines—1/2 to 3/4 of letter height
Arrow tip or corner clearance—3 to 5 inches.

Location Along Road

Each sign was placed at or as close as possible to the location where it would be most effective. At many turnoffs the two direction signs were placed within two curbs of the nose at the road fork, as close to the nose as widths would permit. Where alinement permitted view of both, the sign for the right turnoff was placed about 150 feet in advance of the nose and the "through" or "keep left" sign was placed on the nose.

Each sign was mounted with the face normal to a line of sight from a vehicle on the center of the roadway 200 to 500 feet from the sign to correspond with the legibility distance of the letters used. On tangents such line of sight is at an angle of 3 to 5 degrees from the center line.

Design of Boards and Legends

It was necessary to prepare all design details for materials, construction, location and erection of the signs in a form that could be reproduced as plan prints for the field offices. This was done largely by means of standard size plan sheets made as pencil tracings. Figure 2 is a photographic reproduction of a typical board and legend details, as developed on the paper tracings.

These sign details served three different purposes. The over-all dimensions were the plans for construction of the signboards. The legend and symbol dimensions were the specifications for the sign painting or stencilling. And the position of the bolt holes, plus other dimensions shown on separate erection sheets gave the necessary instructions for mounting.

Figure 1 is a dual overhead sign arrangement at one of the main road forks. Letters used are 10-and 12-inches in height, of the 'D' and 'C' series. Each board is about 5′ x 10′ in size and hung free to swing.

Results of Observations

In addition to the conclusions previously mentioned, observations of the finished signs establish that:

(1) The rounded letters used are more pleasing in appearance, are less

WIDTH AND SPACING FOR PROPOSED ROUNDED LETTERS-"D" SERIES

ALL DIMENSIONS IN INCHES

NOV. 1942

	HEIGHT OF LETTERS									KEY TO SPACING	
	2"	3"	4"	5"	6"	8"	10"	12"	18"		
	STROKE										
	0.31	0.47	0.62	0.78	0.93	1.24	1.55	1.86	2.79	LEFT	RIGHT
	WIDTH OF LETTERS										
A	1.47	2.20	2.94	3.67	4.41	5.88	7.35	8.82	13.23	A	III	III
B	1.31	1.97	2.62	3.28	3.93	5.24	6.55	7.86	11.79	B	I	II
C	1.41	2.11	2.82	3.52	4.23	5.64	7.05	8.46	12.69	C	II	IV
D	1.41	2.11	2.82	3.52	4.23	5.64	7.05	8.46	12.69	D	I	II
E	1.19	1.78	2.38	2.97	3.57	4.76	5.95	7.14	10.71	E	I	IV
F	1.12	1.68	2.24	2.80	3.36	4.48	5.60	6.72	10.08	F	I	IV
G	1.44	2.16	2.88	3.60	4.32	5.76	7.20	8.64	12.96	G	II	II
H	1.38	2.07	2.75	3.45	4.14	5.52	6.90	8.28	12.42	H	I	I
I	0.31	0.47	0.62	0.78	0.93	1.24	1.55	1.86	2.79	I	I	I
J	0.97	1.45	1.94	2.42	2.91	3.88	4.85	5.82	8.73	J	IV	I
K	1.41	2.11	2.82	3.52	4.23	5.64	7.05	8.46	12.69	K	I	IV
L	1.12	1.68	2.24	2.80	3.36	4.48	5.60	6.72	10.08	L	I	IV
M	1.66	2.49	3.32	4.15	4.98	6.64	8.30	9.96	14.94	M	I	I
N	1.41	2.11	2.82	3.52	4.23	5.64	7.05	8.46	12.69	N	I	I
O	1.50	2.25	3.00	3.75	4.50	6.00	7.50	9.00	13.50	O	II	II
P	1.28	1.92	2.56	3.20	3.84	5.12	6.40	7.68	11.52	P	I	II
Q	1.50	2.25	3.00	3.75	4.50	6.00	7.50	9.00	13.50	Q	II	II
R	1.31	1.97	2.62	3.28	3.93	5.24	6.55	7.86	11.79	R	I	II
S	1.25	1.88	2.50	3.12	3.75	5.00	6.25	7.50	11.25	S	II	II
T	1.38	2.07	2.76	3.45	4.14	5.52	6.90	8.28	12.42	T	IV	IV
U	1.34	2.02	2.68	3.35	4.02	5.36	6.70	8.04	12.06	U	I	I
V	1.47	2.20	2.94	3.67	4.41	5.88	7.35	8.82	13.23	V	III	III
W	2.09	3.14	4.18	5.23	6.27	8.36	10.45	12.54	18.81	W	III	III
X	1.53	2.30	3.06	3.83	4.59	6.12	7.65	9.18	13.77	X	IV	IV
Y	1.47	2.20	2.94	3.67	4.41	5.88	7.34	8.82	13.23	Y	IV	IV
Z	1.25	1.88	2.50	3.12	3.75	5.00	6.25	7.50	11.25	Z	IV	IV
1	0.31	0.47	0.62	0.78	0.93	1.24	1.55	1.86	2.79	1	I	I
2	1.19	1.78	2.38	2.97	3.57	4.76	5.95	7.14	10.71	2	II	II
3	1.19	1.78	2.38	2.97	3.57	4.76	5.95	7.14	10.71	3	IV	II
4	1.34	2.02	2.68	3.35	4.02	5.36	6.70	8.04	12.06	4	IV	IV
5	1.22	1.83	2.44	3.05	3.66	4.88	6.10	7.32	10.98	5	I	II
6	1.25	1.88	2.50	3.12	3.75	5.00	6.25	7.50	11.25	6	II	II
7	1.22	1.83	2.44	3.05	3.66	4.88	6.10	7.32	10.98	7	IV	III
8	1.28	1.92	2.56	3.20	3.84	5.12	6.40	7.68	11.52	8	II	II
9	1.25	1.88	2.50	3.12	3.75	5.00	6.25	7.50	11.25	9	II	II
0	1.28	1.92	2.56	3.20	3.84	5.12	6.40	7.68	11.52	0	II	II

KEY RIGHT ↔ LEFT	SPACING BETWEEN LETTERS								EXAMPLES
I ↔ I I ↔ II II ↔ I	0.56	0.74	0.93	1.11	1.48	1.85	2.22	3.33	NI - UP - OH
I, II ↔ III, IV III, IV ↔ I, II II ↔ II	0.42	0.56	0.70	0.84	1.12	1.40	1.68	2.52	IA - HT - OV - GX WR - KD - TB - YS SR - OQ
III, IV ↔ III, IV OPPOSITE	0.28	0.38	0.47	0.57	0.76	0.95	1.14	1.71	WV - YV - EA - CT
III, IV ↔ III, IV PARALLEL	0	0	0	0	0	0	0	0	WAY - LY - AT
	3"	4"	5"	6"	8"	10"	12"	18"	

TABLE I

easily confused with each other, and apparently are legible at a slightly greater distance than the old standard block alphabet series.

(2) The use of letter spacings as shown in Table 1 to determine word lengths, within which the letters can be spaced as experienced sign painters best see fit, was entirely satisfactory and permitted rapid development of the legend and board details by engineer-draftsmen inexperienced in such work.

(3) With 6-inch letters, the arrow with a stem 2 inches wide, a head 8 inches wide and 6 inches long, or modified sizes in the same dimension ratio for other height letters, provided a desired legibility that is slightly greater than that of the letters.

(4) For daytime visibility the edge clearance above, below and to the sides of letter copy need not be as large as used on most of these signs, 2/3 to 7/8 of letter height. Values of 1/2 to 2/3 of the letter height apparently are sufficient. Likewise panel spacing between lines of copy need not be as large as used, 1/2 to 3/4 of the letter height. Values of 1/3 to 1/2 the letter height apparently are sufficient. As far as can be determined, these suggested edge and panel clearances would also be sufficient for visibility of the messages on glass beaded reflector surfaces under headlight illumination.

(5) For greatest effectiveness dual signs should be suspended above the roadways to which they apply. Dual signs also are effective when mounted one above the other with each arrow closest the road to which it applies, provided the boards are offset laterally 1/4 to 1/2 the board lengths, and are vertically separated at least a few inches.

(6) The glass beaded white reflector surfaces provide effective visibility under headlight illumination for signs mounted at normal heights. Little difference was discernible on upper boards of dual signs with legends as high as 9 feet above the roadway. Glass beaded silver reflecting surfaces are reasonably effective for overhead signs, with legends at heights of 14 to 18 feet above the roadway.

(7) Regardless of preparatory study and trial designs no sign should be considered as "final" or completely satisfactory until it has proved its effectiveness in directing or controlling traffic as desired.

★ ★ ★

PEDESTRIAN DEATHS SOAR

Folks in cities literally are walking themselves to death in tragic numbers.

In a survey made by the National Safety Council of 68 cities with a population of more than 100,000, pedestrians were 70 per cent of the total motor vehicle deaths.

Nationally in cities and towns, 62 per cent of motor vehicle fatilities were pedestrians. There were 9,700—or approximately 800 pedestrian deaths per month—last year in both urban and rural America.

★ ★ ★

In the 20 years from 1923 to 1943, the motor vehicle death rate for school age children (5 to 14 years) has dropped 38 per cent under the impact of organized safety effort in the schools, reports to the National Safety Council prove.

★ ★ ★

One-fourth of all pedestrians killed in urban accidents in 1943 were crossing at an unsignalized intersection—but one-third were killed crossing **between** intersections, reports the National Safety Council.

Buffalo Requests More Light

by HENRY W. OSBORNE, *Mem. I.T.E.*
Traffic Adviser, City of Buffalo, N. Y.

A $400,000 post-war street lighting improvement plan was recently approved by the Buffalo Board of Safety. The plan, presented in a 25-page report, represents but one of eight projects proposed by the Board of Safety to accomplish safer and more expedious movement of Buffalo traffic.

In the preparation of the report, aid was obtained from lighting specialists and from government research agencies and fiscal advisors. The duties of the Board were outlined by ordinance and limited to "traffic and safety matters affecting the city, its inhabitants and other persons sojourning therein or passing through." I accordingly included only such recommendations in my report to the Board which were consistent with the ordinance limitations.

Streets Classified by 3 Groups

The streets of the city were classified for purposes of regulation into (1) primary, (2) secondary, and (3) tertiary systems, based on their relative importance.

The primary system includes those U. S. highways and state routes, those much traveled routes designated as through streets, such as main radial routes and main circumferential routes, and access roads to police stations, fire stations and other public protection and welfare sites.

The secondary system consists of roads which parallel or act as relief to primary streets or are feeders to them.

The tertiary or residual system is that part of the remaining streets not classified in one of the two remaining systems.

In connection with the preparation of the recommendations, work done in a W.P.A. project in 1937 was made useful. The flow map enabled the selection of the constituent parts of the three street systems.

Accident Facts

The records of accidents showed a yearly loss of 100 lives and a yearly total of 3000 persons injured. Seventy-two per cent of all fatal accidents occurred on principal thoroughfares and of those which occurred on principal thoroughfares, 79 per cent occurred during the dark hours of the day. These facts isolated the problem. It is interesting to note that the principal thoroughfares to which the above data refer, are only 10.6 per cent of the city's 675 miles street system. The whole program does not extend much beyond this mileage.

To further isolate the problem by determining which sections bore the greatest concentrations of night fatalities, a spot map was prepared showing the location of each occurence. A total of 29 sections was selected in which 60 day fatalities and 227 night fatalities occurred. Heading the list of sections was Broadway with 3 day fatalities and 20 night. This list showed where to begin. It also proved that light was important if the number of fatal accidents in the city were to be reduced.

Illumination Survey

To verify or disprove the sufficiency of street illumination as related to street traffic, the General Electric Company of Schenectady, at the

Board's instance, made technical tests in three blocks which had bad accident records. The amount of light as determined was compared with the amount recommended as standard by the Illuminating Engineering Society's manual of recommended practice (1940). Traffic counts were made. The lighting survey showed that in each case, the illumination was sufficient for light traffic only. The traffic counts showed that the traffic was heavier than "light," nearly three times as great.

It was only necessary to make this series of spot checks to substantiate what has been known for some time—that the illumination reaching the pavement was far from adequate. In the case of the William Street location, the light source is sufficient but because of 'lack of proper mounting height and improper control and distribution of the light generated, only a small percentage reached the street pavement where it is needed to give sufficient pavement brightness to discern obstacles in the roadway.

The Visibility Evaluator

Tests were made with the General Electric visibility evaluator. This instrument measures pavement brightness, obstacle brightness and glare and the factors are expressed in units of effective illumination called evaluator ratings. It is easily mounted on any car. With it, measurements of the three brightness factors at representative points over a street are made by a

The author standing at right beside survey car equipped with visibility evaluator.

single operator without leaving the driver's seat. Only two or three minutes per test station are needed for the determinations. The instrument enables the determination of the percentage of adequacy which prevails in relation to need for given conditions of street and traffic.

The evaluator consists of three parts electrically connected with the car battery. On the simulated pavement bed placed over the car hood, a strip is placed aproximating as nearly as possible, the color and characteristics of the pavement surface. On it is placed a test obstacle. A photometer on the pavement bed permits readings of pavement and obstacle brightness from the driver's seat.

The glare integrator, above the windshield, houses a Luckiesh-Holladay "transparent diffuser" which integrates the glare from the street lamps and other sources in the field of view in proportion to their interference to seeing. The integrated glare is measured in terms of its veiling brightness—that is, the brightness of an illuminated fog which would produce the same reduction in visibility. A photometer combined with a periscope again permits readings from the driver's seat.

The photometers are controlled from an instrument box on the front seat of the car. An evaluation chart is inserted in the instrument box upon which the measured values of brightness are recorded.

The strip mentioned above is selected from a series of samples at the time and location of the test. It is the test field of the pavement photometer. From the driver's position it is aligned with the word PAVEMENT printed on a glass plate. The word becomes brighter or darker as the operator varies the lamp current. The recorded value of pavement brightness is the point of balance where the word disappears.

The vertical word OBSTACLE on the same plate is aligned with and balanced against an obstacle of appropriate brightness positioned on the pavement strip.

The word GLARE is similarly balanced against the brightness of the transparent diffuser. Masks restrict the field to the angles of view of the average driver, and permit exclusion of light from headlamps when desired.

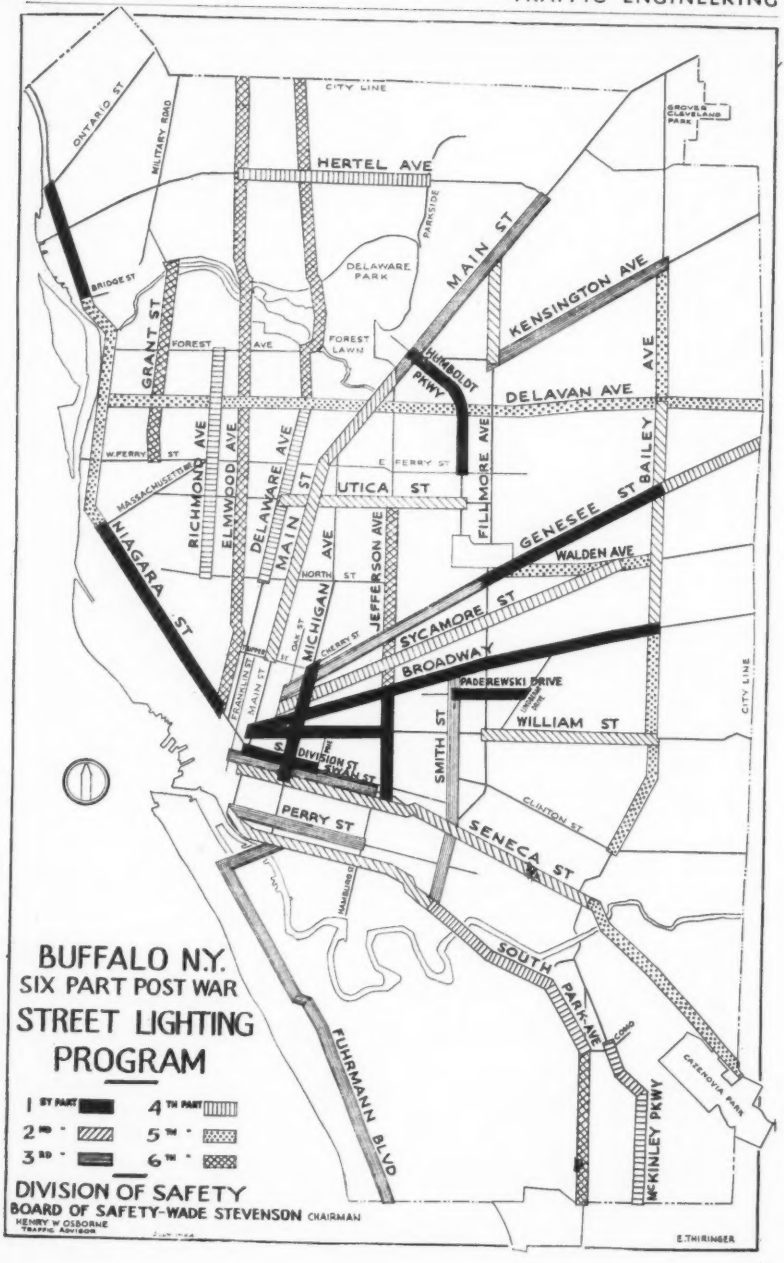
The instrument box houses the photometric controls, the device for recording the observed data on the chart, and a battery-calibrating adjustment to insure correct voltage at all times.

Evaluator ratings, once obtained, must be correlated to traffic volumes. The Illuminating Engineering Society recommends specific values of lumens per square foot of street surface for each of a number of traffic densities. These recommendations are included in "Recommended Practice of Street Lighting, 1940." The improvement program is based on these factors.

In order to obtain representative readings in the selected street sections, central areas in each of the driving lanes at regular longitudinal spacings were chosen. Tests were made at these points. Tests were made on Williams, Genesee and Main. In the same order, the traffic classifications were, medium, heavy and heavy. The evaluator ratings averaged 4.0, 4.3 and 5.4 whereas they should have, in accordance with the Illuminating Engineering Society's recommendation, averaged 6.0—9.6, 9.6—13.5 and 9.6—13.5.

Buffalo's Program in 6 Parts

The map reproduced here shows the sections of streets upon which new lighting is recommended. The purpose of the improvements is to reduce night traffic fatalities, insofar as they are due to inadequate street lighting, and to improve street lighting for that purpose within financial and engineer-


BUFFALO N.Y.
SIX PART POST WAR
STREET LIGHTING
PROGRAM
1 ST PART
2 ND "
3 RD "
4 TH PART
5 TH "
6 TH "
DIVISION OF SAFETY
BOARD OF SAFETY-WADE STEVENSON CHAIRMAN
HENRY W. OSBORNE
TRAFFIC ADVISOR
E. THIRINGER
CITY LINE
HERTEL AVE
ONTARIO ST
MILITARY ROAD
BRIDGE ST
GRANT ST
FOREST AVE
DELAWARE PARK
FOREST LAWN
PARKSIDE
MAIN ST
KENSINGTON AVE
HUMBOLDT PKWY
DELAVAN AVE
BAILEY AVE
GROVER CLEVELAND PARK
W. FERRY ST
E. FERRY ST
MASSACHUSETTS
RICHMOND AVE
ELMWOOD AVE
DELAWARE AVE
MAIN ST
UTICA ST
FILLMORE AVE
GENESEE ST
NIAGARA ST
NORTH ST
OAK ST
CHERRY ST
MICHIGAN AVE
JEFFERSON AVE
WALDEN AVE
SYCAMORE ST
BROADWAY
FRANKLIN ST
MAIN ST
PADEREWSKI DRIVE
WILLIAM ST
DIVISION ST
EAGLE ST
SMITH ST
CLINTON ST
PERRY ST
SENECA ST
MARIMINA
SOUTH PARK AVE
CONG
GATEWOOD PARK
McKINLEY PKWY
FUHRMANN BLVD

ing limitations. It will be seen that it will require attention to the lighting of less than 72 miles of the city's 675 miles of streets but will tend to remedy conditions which affected, or caused, 227 of the city's 295 night fatalities of five years' experience. Modernization of 10 per cent of the mileage will affect 77 per cent of the total night's fatalities.

The basis for the selection of the various steps of the total plan was the number of fatalities per mile of street. Obviously, daylight accidents are excluded. The entire program is set up in six parts. If the city is not financially able to accomplish all six parts in a lesser time, it is recommended that the six parts be accomplished in six consecutive years. The parts are arranged in the order of their recommended priority. Each comprises an almost equal part of the total of 71.7 miles.

In addition to the six sections listed in the formal report, certain connecting links are recommended not particularly on account of their accident experience but to smooth out the general pattern of new lighting and to aid traffic as it flows from one section to another. The estimated cost of the six sections is $400,000. If the construction is accomplished in four years, the cost will not be greater than the revenues from parking meters.

BROAD PLANNING PROGRAM LAUNCHED BY NORTH CAROLINA CITY

Wilmington, N. C., has hired a planning consultant and embarked on a specific planning program for city and the metropolitan area, the American Society of Planning Officials reports.

As approved by the city council, the planning program will run for about 16 months and has been divided into two definite phases.

The first phase, to be completed in about six months, will include a comprehensive industrial and economic survey of the area. Results of this study will be utilized in negotiating with business and industry who show an interest in expanding or establishing plants in the Wilmington area.

In addition, the report will be valuable in directing the activity of local business in developing available resources and in emphasizing appropriate fields for the area as a whole to concentrate on.

The second phase, estimated to take about 10 months, will involve development of a comprehensive physical plan for the city of Wilmington. It will include thorough studies and specific recommendations on all phases of physical planning.

Of prime importance in the second phase will be the development of a complete zoning ordinance, which the city has never had; other subjects will embrace transportation, traffic, parks, public buildings, housing, and all phases of city planning, the society said.

Every effort will be made by the city to discuss all phases of the program with citizens and to secure public participation, cooperation and support of plans and recommendations.

Cost of the program will approximate $7,000 for the industrial survey and $13,000 for the complete physical planning and zoning program, according to official estimates.

AIR SERVICE AUTHORIZATION REQUESTED

The Port of New York Authority has filed a brief with the Civil Aeronautics Board in behalf of the establishment of direct non-truckline air service between various communities in New England and Eastern New York State, and the New Jersey-New York Port District.

Possible Travel Times Savings For 2,000,000 People

According to the Port Authority more than 60 cities in the New England-Eastern New York area ranging from 15,000 to 100,000 and with a total population of 2,000,000 are as yet untouched by direct air service. These communities lie between the truckline services that radiate from New York to Boston, Montreal, Syracuse and beyond.

A 1933 Government report indicated that over 1,400,000 non-commuting train passengers a year did not have air service to the New York metropolitan area from the New England area. About 100,000 bus passengers also came to New York from points which lack air service in this same area.

At present less than 2 per cent of travel by air is for distances of less than 250 miles, while such travel accounts for 90 per cent of bus travel and 99 per cent of automobile travel.

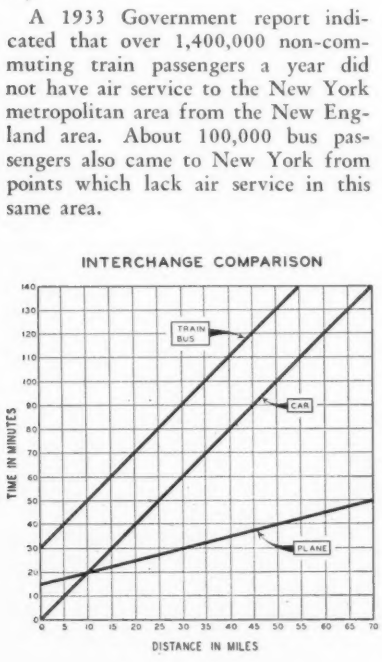
Air versus Ground Travel

The charts indicate that the short-haul airplane saves travel time to air interchange points even over an automobile from points ten miles or more distance, and has a decided advantage in this type of service over a train or bus for any distance. For travel to market centers, car, train or bus transportation is only more economical in time savings for distances up to 30 miles.

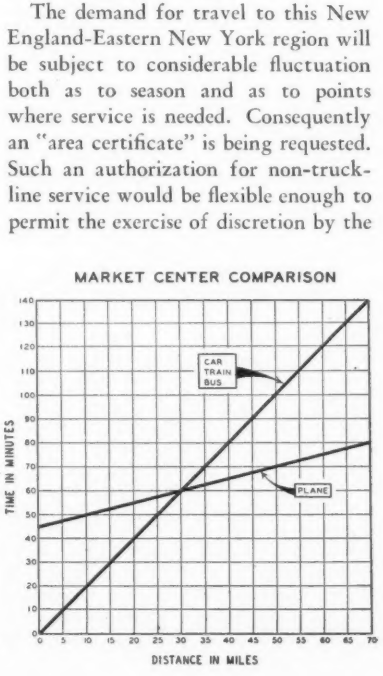
"Area Certificates"—An Innovation

The demand for travel to this New England-Eastern New York region will be subject to considerable fluctuation both as to season and as to points where service is needed. Consequently an "area certificate" is being requested. Such an authorization for non-truckline service would be flexible enough to permit the exercise of discretion by the

INTERCHANGE COMPARISON



MARKET CENTER COMPARISON



operator who would then be able to accommodate his service to the area requirements.

With about one-third of the nation's population concentrated in an area within 350 miles of the New York Port District, it is believed that this area is an ideal proving ground for the domestic non-truckline air pattern of the future.

"POST-WAR TRANSIT SYSTEM PLANS MUST BE CONSIDERED AT ONCE," SAYS PLANNING AUTHORITY

"Transit must play a more vital part in enabling cities to function properly and aid in directing their proper growth," declared Russell H. Riley, city planning authority in an address before the Niagara Frontier Builders Association in Buffalo recently. Riley emphasized the need for immediate comprehensive study and planning for post-war transit modernization in order to provide the public with the service they will patronize.

Riley, a partner in the firm of Harland Bartholomew & Associates, St. Louis, Mo., pointed out that a combination of modern vehicles is necessary for a well-balanced transit system in any large city: "In the many cities with which I am conversant, I have found that all types of vehicles are necessary. We need streamlined trolleys; we need trackless trolleys, or trolley coaches; and we need motor buses. There is no one of these which can do the job alone and in our recent studies we have found that nowhere does the local transit company contemplate reliance on any one vehicle."

Questioned as to the practicability of using autos for mass transportation, Riley stated that in his opinion the private car cannot do a satisfactory job as the streets were never planned for such a volume of traffic."

"Public transit is a major consideration in any city plan . . . A comprehensive city plan analyzing and making plans for the future development of the public facilities is essential now. Transit is one of the most important matters to consider in any city plan. Transit routing must be a part of such a plan."

A transit study must take into account first the present distribution and the probable future distribution in each section of the city and commercial and industrial development.

"Transit routings must then be studied in relation to present population and its probable future distribution. In determining proposed transit routings the following factors must be considered:

"A large majority of the population should be within a quarter-mile of a transit route. Routes should be located on major streets with a wide, substantial pavement.

"In the more densely populated districts (near the business area), two or more lines may be located on a single street. There probably will be needed far more crosstown lines to serve the new locations of industries.

"Routings in the business district are particularly important. They should be in the center of the district and, preferably, the private autos should be able to find adequate parking space around the edge of the business district. Transit facilities should carry such a large number of persons to the central district that they must move through the very heart of this area with a minimum amount of interference by private cars.

"The transit study must also analyze the amount of service necessary on each line. Special consideration must be given to the number of riders in the business district and the capacity of the streets that will be used.

"This, in turn, requires an analysis of the type of service, so that the riding public can be accommodated without unnecessary delays or congestion."

Riley pointed out that in such cities as Dallas, Richmond, Indianapolis and Kansas City, where he has recently made exhaustive transit studies, "there was unanimous agreement between our office and the operating companies that all three types of service—street cars, trackless trolleys and motor buses—provided the most economical solution for the post-war future."

"Advance study and planning will not solve the problem," admitted Riley, "but it will show the way. Consistent cooperation on the part of the public and company can achieve the results."

★ ★ ★

TRAFFIC SIGNAL WARRANTS

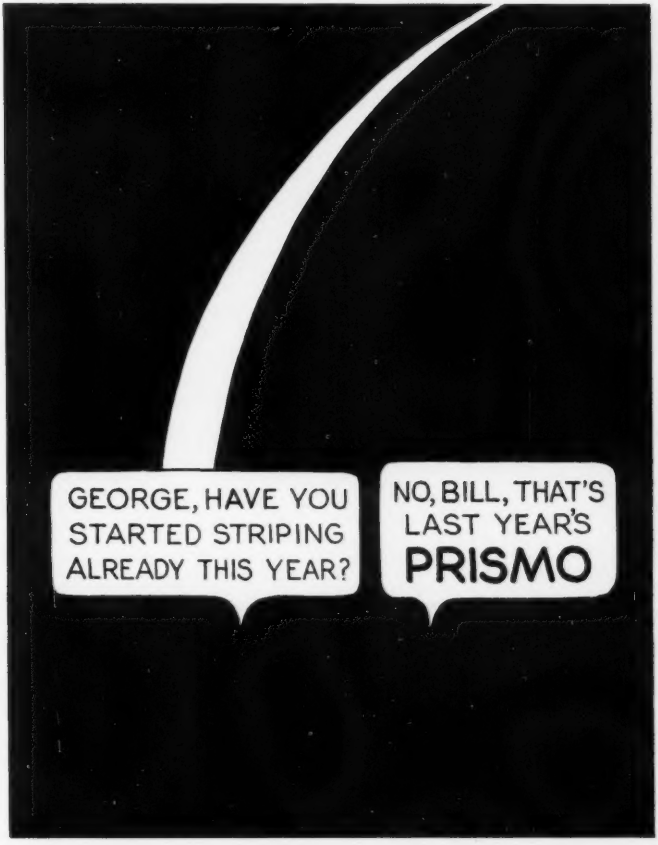
This is a bit of whimsey, for which we are indebted to an Indiana Traffic Engineer, whose name shall remain unknown lest he bring down upon his head the wrath of politicians and others who might resent labeling this as nonsense.—Editor.

In considering the warrants for traffic signals, the statement should be made that in every case possible the evaluated warrants should be made to approximate 100 points or per cent. If speed is the predominant factor, it should be rated accordingly. If volumes, turning movements, pedestrians and accidents all have a share in determining the advisability of an installation, then each one should be rated for comparative purposes.

In our experience in making city traffic surveys there has been developed a set of traffic signal warrants that seem to more nearly reflect the actual conditions than do the standards generally used. These are as follows:

1. If there is a school house within three blocks distance of the intersection being considered—15 points. If within two blocks—25 points. If within one block 50 points. If on the same corner—118 points.
2. If there is a church within one block distance—20 points. If on the same corner—76 points. If two churches on the same corner—111 points. If three churches on the same corner, put in an entire signal system.
3. If a city councilman's aunt lives within one block distance, 20 points. If she lives on the same corner, 48 points. If councilman lives in that section of the town, 40 points. If he lives within one block, 69 points. If he lives on the corner, 153 points.
4. If there is a drug store, with cigarettes—38 points.
5. If there is a service station with a public-spirited attendant—57 points.
6. If there is a petition with 50 to 500 names, 271 points.
7. If there have been three near accidents at the intersection within the past year 40 points. If two near and one actual accident—50 points. If one near and two actual accidents, 85 points. If three actual accidents—196 points.
8. If the mayor has trouble crossing the intersection—77 points. If he has trouble turning—40 points. If he thinks he would have trouble if he drove upon that street—18 points.
9. If there is a lot of traffic through the intersection (200-400 per day)—35 points. If the street is just full all the time (500-800 per day)—57 points. If you have to "wait sometimes for an hour before you can cross" (1000-2000 per day)—92 points.
10. **If a few points are still needed, an engineering survey, thorough and complete is worth from 10 to 30 points.**

PRISMO "LIFELINE"



Typical of
PRISMO

•

THE PRISMO SAFETY CORPORATION

HUNTINGDON · · · · · PENNSYLVANIA

DETROIT'S TRANSIT PLANS

Post-war traffic modernization plans for Detroit, the world's motor city, call for a complete reshuffling of transit lines with electric trackless trolleys selected to serve several of the most vital routes into the heart of the city, according to a comprehensive survey submitted to the Mayor by W. Earle Andrews, city planning expert and associates.

The proposals, which have just been made public, call for four electric trackless trolley routes radiating from the center of the city like spokes in a wheel; two trunk street car routes bisecting these angles; a crosstown rapid transit route, and two express bus routes. These routes would serve as the backbone of the system, interconnected with a network of buses. The report explains that: "Gasoline or diesel buses have been specified for a few routes which would be recommended for trolley bus operation in almost any other city but Detroit. Detroit is the world center of the automobile industry. We believe that it is plain common sense to choose buses over any other type of vehicle when the selection can be made without material compromises."

Despite the fact that Detroit is famous as a motor city, Andrew's report states that of all the people in downtown Detroit on an average weekday recently, more than 73 per cent had entered the area in public carriers. Furthermore, the Detroiter averages 217 rides a year on the local transit system.

In addition to the public transit system seven major expressways, totaling 34.4 miles, are proposed for private auto traffic. The rapid transit lines would be channeled through the central mall of some of these expressways. By coordinating the highway plan with the transit modernization, it will be possible to achieve both at little more than the cost of one undertaken alone.

The entire program would cost an estimated $240,000,000 and would require twelve years for completion. Many of the more important transit changes, however, would be put in operation at the very beginning. It is recommended that the four trackless trolley coach lines be started at the earliest possible date. Introduction of modern vehicles would do much to alleviate traffic conditions immedately for at present "Detroit has none of the large gasoline, diesel, or trolley buses and no P. C. C. cars or other modern transit vehicles which have proved popular and efficient in many other large cities."

POST-WAR TRAFFIC INCREASES PREDICTED

Increase in inter-city automotive traffic during the first year after the war will amount to 38 per cent over the 1935-39 average and 6 per cent in excess of such travel in 1941, according to estimates reported by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

Predicting its estimates on the availability of cars, gasoline and rubber, the report states that "with the present attitude of authorities in control of production, the facilities likely will be available in considerable, if not substantially complete, supply.

It appears now that the end of the European struggle will substantially

8 FEATURES THAT MAKE THIS *TYPE D* CONTROLLER THE *IDEAL SOLUTION* OF...

●Your complicated street intersections may require three or even more successive traffic movements. Your heavily traveled avenues may demand progressive traffic flow at set speed. In addition, you have a host of ordinary intersections that may need only a simple two-traffic-phase cycle. But no matter how complex or diverse your city's traffic problems, they all can be met inexpensively with our extremely adaptable Novalux Type D controller.

Introduced in 1936, this versatile controller has solved the most diverse "crossroad puzzles"—in small towns and big cities. New York City alone now has more than 3000 in service!

Basically, here's what this controller offers you:

1. **The right number and sequence of movements for *any* intersection**
2. **The signal-color sequence that's standard for your community**
3. **The standardization of one general type of controller for all intersections**
4. **Easily adjusted, accurate timing**
5. **Provision for progressive timing**
6. **Provision for flashing amber or complete shutdown, when traffic is light**
7. **Reliability, long life, and low maintenance**
8. **Astonishingly low initial cost**

To know more about the improved G-E Novalux Type D traffic-signal controller, send for your copy of GEA-2717A. *General Electric Company, Schenectady 5, N. Y.*

Novalux
TRAFFIC CONTROL

GENERAL ELECTRIC

453-31D-3270

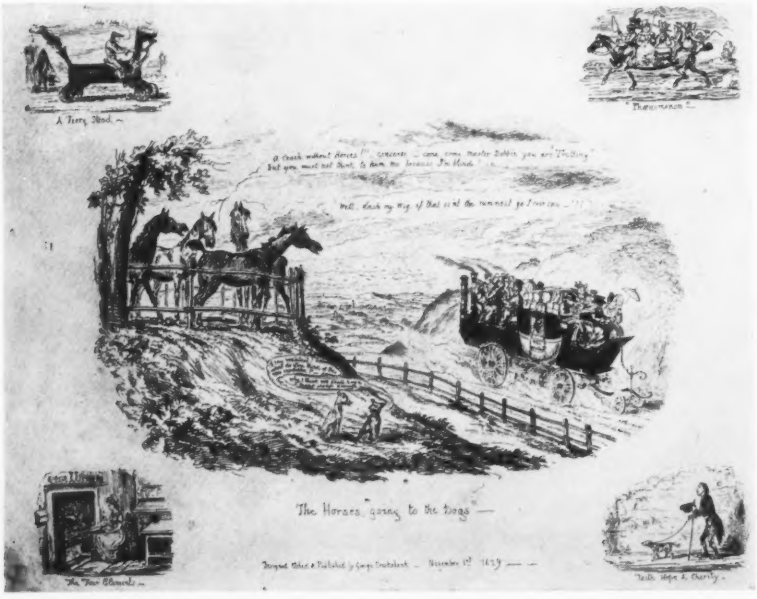
ease the pressure on certain critical materials and that there will be a considerable expansion in the production of civilian goods.

Citing unprecedented high individual savings and "a large unsatisfied demand for automobiles" the estimators point out that "there will be, of course, a large amount of travel in the first post-war year resulting from the dislocation of persons due to the war production program." It is also foreseen that considerable travel will be generated by the movement of discharged service people back to their homes and jobs."—*Automotive News*, November 27, 1944.

THE FIRST AUTOMOBILE JOURNEY

About 1830 great interest in steam carriages developed in England. This was due in large measure to the work of Sir Goldsworthy Gurney (1793-1875), whose steam coach, patented in 1827, is accurately portrayed in the rare and little known caricature by George Cruickshank (1792 - 1878), which is here reproduced. In 1829 the coach of Gurney accomplished, with a number of stops, the trip from London to Bath, the first journey of any length to be made by an automobile. The feat and something of the popular reaction to it is preserved for us in this amusing contemporary print.

This originally appeared in *The American Physics Teacher*, 6, 112 (1928).



Caricature of the first automobile journey, by George Cruickshank (1792-1878).

Pedestrian Problems in Houston

by THOMAS WILLIER, *Mem. I.T.E.*
Market Analyst, Douglas Leigh, Inc.

IN connection with the subject of marking cross-walks for pedestrians, I should like to mention a system which we used in Houston, Texas, when I was employed there as City Traffic Engineer. In addition to marking the usual type cross-walk lines and the "stop line" we added a diagonal white line running from the left-hand corner of the cross-walk, at the curb, to the right-hand corner. This caused pedestrians to walk to the right within cross-walks and, consequently, reduced congestion which is generally caused by the intermingling of persons in the center of streets.

Pedestrian Violations

I should like to refer, also, to the general observance of traffic signal indications by pedestrians in Houston. Just prior to the war, we conducted a survey and found that ninety per cent of the pedestrians in the downtown business district, and eighty-five per cent of those in other sections, were remaining on the curb at intersections while traffic lights were red. However, shortly after the beginning of the war we found a tendency on the part of persons to "walk the red light." This was due to the military services and war production plants who brought strangers into town who were not familiar with the Houston traffic regulations and practices. In addition, many of these persons flagrantly violated the traffic rules apparently because they felt that they were so essential to the war effort that they could "do as they please." The actions of these persons affected the walking habits of the local citizens and created a "follow the leader" attitude to the extent that observance of traffic signals fell off considerably and traffic accidents and congestion increased at many intersections.

Enforcement Campaign

Through the cooperation of the Police Department and the Traffic Engineering Department, measures were adopted to improve the pedestrian observance. Intersections were marked, police stationed at intersections warned the public about bad walking practices, police "Sound Cars" were stationed at busy intersections, special pedestrian posters were placed at intersections, in show-windows and in beer taverns and the police began enforcing pedestrian traffic regulations. At first, for about two weeks after the beginning of the pedestrian campaign, pedestrians were merely warned but after that time they were given tickets and the fine for non-observance of traffic rules was set at $2.00 per violation. Through the application of these measures, excellent results were attained and improvements were generally noted.

Jay-Walking

During the pedestrian safety campaign, in Houston the police gave careful attention to pedestrian "jay-walking." Although the city traffic ordinances stated that persons should not cross streets between intersections, it was very difficult to prevent such crossings, especially in the residential areas where blocks were usually long and vehicle traffic very light. Certain

---

This is an excerpt from the "Proceedings of the First Connecticut Traffic Engineering Conference."

"My Hats" to

who mark roa

To my mind, tra are defin
when they pla TED sign
viewing SCOT s our w
clear and easy r nightti

...ts" to the Highway Engineers
...rk roads with *Scotchlite* signs!"

...nd, tra...are definitely helping to widen the margin of safety of highway driving ...y pla...TED signs. The elimination of glare, distortion and guesswork when ...SCOT...s our work easier — our trips safer. I've found no other sign so ... easy...r nighttime driving conditions.

R. H. PRUDLO

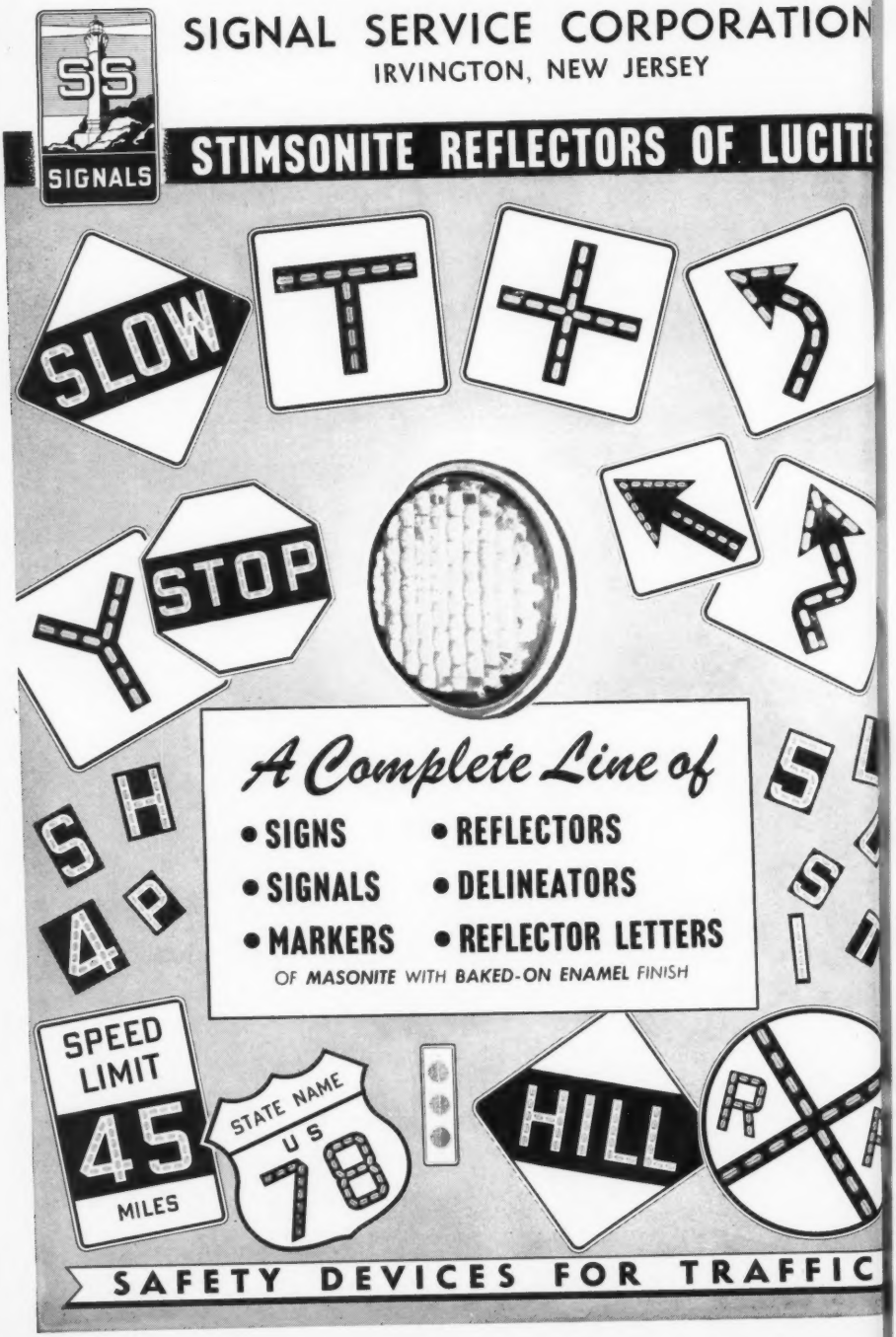
...*otchlite* in any of the following colors, white, yellow, silver or ...d cut to any sign shape or size does a superb job of keeping your sign ...s brilliant and alive night or day. Being able to reflectorize entire sign ..., large or small, is a definite SCOTCHLITE advantage and the reason ...CHLITED signs have greater visibility, are more easily read at greater ...es and retain their shape and appearance night and day.

...ttering can be applied to SCOTCHLITE by screen process, stencil or brush. ...se of lettering plus the four SCOTCHLITE colors of yellow, white, silver ...d, make it the most practical ...daptable reflective material for ...s of highway signs.

3-M

MINNESOTA MINING AND MANUFACTURING CO.

GENERAL OFFICES: SAINT PAUL 6, MINN.


SS
SIGNALS
SIGNAL SERVICE CORPORATION
IRVINGTON, NEW JERSEY
STIMSONITE REFLECTORS OF LUCITE
SLOW
STOP
A Complete Line of
• SIGNS
• REFLECTORS
• SIGNALS
• DELINEATORS
• MARKERS
• REFLECTOR LETTERS
OF MASONITE WITH BAKED-ON ENAMEL FINISH
SPEED LIMIT
45
MILES
STATE NAME
U S
78
HILL
SAFETY DEVICES FOR TRAFFIC

city officials suggested to me that we consider establishing specific major thoroughfares where the "jay-walking" regulation would be rigidly enforced and that police be instructed not to arrest those who crossed between intersections on other than the designated streets. I objected to this proposal as our pedestrian accident spot maps disclosed that the majority of our accidents had been occurring in outlying sections of the city and many of the most severe type pedestrian accidents had occurred on minor residential streets. It seems to me that this condition was not unusual, because numerous pedestrians are killed on city streets where vehicular traffic is not heavy and where the speed of vehicles is correspondingly high. At such locations the motorists do not expect pedestrians to dart out from between parked cars to cross the street and the pedestrians do not expect the few vehicles to be driving at unusually high rates of speed. For this reason, there seems to be just as much reason to enforce "jay-walking" regulations in residential areas as in business areas and on thoroughfares where traffic is generally heavy. I agree that this is a difficult problem for the police because the average citizen feels he is justified in crossing a residential street in the middle of the block where there is little traffic and he resents any enforced regulation by the police officers.

AN EXPRESS HIGHWAY SYSTEM FOR LOS ANGELES

The construction of an express highway system is the main item in the post-war public works program of the City of Los Angeles.

After spending in the neighborhood of 300 million dollars on widening and extensions of traffic streets in accordance with a program adopted in 1924, and finding itself no better off than at the start of that program—the increase in traffic flow having outrun the increase in street capacity—Los Angeles decided that much more effective measures must be undertaken. The result of a study begun in 1938 by its Transportation Engineering Board, is the Express Highway System for Metropolitan Los Angeles, there known as the Parkway System.

Features of the Los Angeles System

Express Highways, also known as Freeways, and in Los Angeles called "Parkways," are sometimes incorrectly called "Speedways." A speedway is a race track, built for professional daredevils, but Parkways are built for safety and convenience. Fast highway traffic can use them safely, but their real contribution to speedy travel comes from the fact that there are no cross streets, no traffic signals, and no left turns. They cut driving time in two for the average driver, and accommodate twice the volume of traffic carried by the same area of surface street.

An express highway consists of two roadways, one for each direction, separated by a continuous dividing strip that cannot be crossed. Most of the Los Angeles system will have three 12-foot lanes each way, this being the optimum width for heavy traffic, with a few sections four lanes wide. Dividing strips will be curbed and landscaped, and will usually be twelve feet or more in width. Wherever possible, a low curb will be built on the right side of the parkway roadways, with a shoulder wide enough to use for emergency parking in case of a breakdown or a tire change. Cut and fill slopes will be much flatter than has been the custom in the past, and landscaping of the entire right-of-way is

included in construction plans. Rights-of-way will be fenced, and the property on the sides will have no frontage rights.

In order to accomplish a complete separation of grades, the Parkway must be above or below the natural ground throughout most of its length, according to the topography of the route. All main cross streets will be carried over or under, and a crossing will be provided about every quarter mile. Where needed to supplement street crossings, pedestrian bridges or underpasses will be built. Rights-of-way will be broad and well landscaped, and in sections where the roads are above the natural surface, the effect will be that of a park rather than of an elevated highway.

Entrances and exits will be provided at most principal streets and at intermediate points not more than half a mile apart. Entrance ramps will be brought into the right, or slow speed, side in the natural direction of flow, with an added lane long enough to accelerate to highway speed before weaving into the moving traffic. Exits will similarly be from the right, with adequate decelerating lanes, and turning movements to other Parkways, whether to right or left, will in general begin from the right hand lane.

The intersection of two express highways presents a problem of the greatest complexity, and especially where it is required that all possible turning movements be provided. In a cloverleaf of the conventional type, left turn movements would be necessarily limited to speeds of about twenty miles per hour, and would have a dangerous tendency to back up traffic into the main highways. All turns in the intersection as planned in Los Angeles are designed for speeds of 35 miles per hour, which will provide capacity for the traffic at all times without congestion. Signing will be as clear and direct as possible, due warning will be given of approaching ramps and interchanges, and no new driving habits will have to be learned in order to make the best use of the facilities.

Agencies Participating in Planning

One of the extraordinary features of the Parkway Plan is the cooperation that has been given by all of the public agencies having an interest in the fundamental problems. The City Planning Commission, the County Regional Commission, the Automobile Club of Southern California, the State Division of Highways, and the City Engineer all have contributed largely to the work that has been done to date. More recently a committee has been formed, consisting of representatives of all of the above agencies and of many of the smaller cities in the region, for the purpose of continuing the study and extending its scope into the more distant future. This is known as the Los Angeles Metropolitan Parkway Engineering Committee, and its primary function is to coordinate the highway planning for the Los Angeles Region with the plans being made for a State wide system of Limited Access Highways.

Construction Schedule

A tentative ten-year program has been prepared for the construction of the entire system. All the above agencies have agreed unanimously on the portions to be undertaken in the first two years and expect to be in better position to schedule additional portions as the time approaches for undertaking further construction.

Future Additions to the System

It is expected that with population increase in the metropolitan area and changes in development, new routes will be added, and that these additions can be fitted easily into the system recently adopted.

Will YOUR Boy Return with Victory Only to Be Hit on an Unlighted Street Corner?

MAYBE you haven't a son or a brother in the service. But maybe it will be the son of the woman next door. Could you explain to her that street lighting costs too much?

Serviceman or civilian, too many people are dying in nighttime traffic accidents. More U. S. citizens were killed on our streets and highways in one year (1941) than in the first two years and four months of the war! Juvenile delinquency and crimes against women overtax the police and hospitals. The time has come for action, and yours is the opportunity to identify yourself with the most public-spirited municipal officials in the country. Plan, promote, *demand* a program of street lighting modernization adequate for the needs of the people.

IF you are puzzled about how and where to start, go to your electric utility, or we will be glad to help by showing you how other municipal officials are solving problems similar to yours. Write The Street and Traffic Safety Lighting Bureau, 155 East 44th Street, New York, New York.

GOOD STREET LIGHTING—THE SIGN OF A GOOD PLACE TO LIVE

The National Committee for Traffic Safety

FORTY-EIGHT national organizations have united in the recently organized National Committee for Traffic Safety to stimulate and coordinate activities in an effective program for traffic safety, and to encourage every resident of every community to actively participate in traffic safety programs.

The new National Committee is the outgrowth of a project initiated by the National Safety Council in 1943 to aid public officials and organizations to incorporate safety into all phases of post-war traffic planning. A first activity was the development of a program for post-war traffic safety listing the problems and the elements in their solution.

The interest of many agencies in this subject resulted in forty of them joining as co-sponsors prior to publication of the program in the report entitled "Danger—Traffic Jam Ahead."

At the 1944 National Safety Congress, the original committee asked that it be superseded by a group which would be more truly representative of all the interested organizations. Accordingly, a Temporary Steering Committee was appointed to develop an organizational plan and policy.

On December 5, 1944, after approval of participating organizations had been given, the formation of the National Committee for Post-War Traffic Safety ("Post-War" later dropped) with Mr. Kenneth B. Colman of Seattle as Chairman, was formally announced. Its membership consists of representatives of forty-eight national organizations interested in traffic safety. A complete list of these may be found in the pamphlet "Danger—Traffic Jam Ahead."

Purpose of National Committee

The purpose of the National Committee for Traffic Safety is to stimulate and coordinate action in effectuating the program for post-war traffic safety by providing a clearing house and coordinating agency for developing public support for traffic safety programs of official associations; by assisting other participating organizations in developing their own action programs for promoting traffic safety; by undertaking informational activities designed to energize programs at local levels; and, by undertaking such studies or development of materials as may be deemed necessary, which do not conflict with those of official associations.

The National Committee is not intended to duplicate existing programs, but to supplement the efforts of all organizations wherever possible.

Three Working Committees Established

To facilitate joint planning and operations, three working committees were established. The Executive Committee is composed of the officers of the National Committee, Chairmen of the Working Committees and elected members from national organizations having full time staff devoted to highway traffic assignments. This group reports to the National Committee and is delegated with the authority for planning and promotion within the policy set forth in the aims of the organization. Published materials are subject to review by the National Committee and periodic statements of

activity are submitted to the National Committee.

The Committee on Program Promotion is responsible for the promotion of the program for Post-War Traffic Safety by preparing action programs for official and non-official organizations desiring assistance, coordinating informational programs, and undertaking other activities as approved by the Executive Committee.

The Technical Committee reviews the programs of the Committee on Program Promotion and programs submitted by other groups for technical accuracy and consistency with the over-all program, makes proposals concerning technical subjects, and undertakes specific studies at the direction of the Executive Committee.

Traffic Accidents a Community Problem

The post-war period will bring an increase in highway hazards: "rusty" drivers, new untrained drivers, overage vehicles (the average age of cars on the road is now 8 years, compared with an average age of 4½ years in 1940) and—in all of us—the intense desire to "go places." These abnormal hazards can lead to a serious increase in traffic accidents—unless each agency, each community, plans now on effective measures for meeting these problems. Methods for preventing traffic accidents have long been known. The major problem is making these methods effective on a nationwide scale.

For years, many local, state and national organizations have contributed time and money toward traffic accident prevention. Methods employed can be effective. Proof of this is shown by the splendid records made year after year by a few communities.

Many communities have used some of these methods. In some areas a splendid educational program is under way. Engineers have installed the most modern signals, signs, safety islands and other physical aids. Some police forces are doing outstanding jobs of traffic law enforcement. But, maximum results can be obtained only by a balanced program utilizing proved techniques of the three "E's"—Engineering, Education and Enforcement.

Greater results in traffic safety efforts are anticipated as a result of the coordinated action by many national organizations. Each participating group is developing its own program which is directly related to the aims of the National Committee. Much of each of these programs will be directed to the local units. Concerted efforts will be made to develop community safety programs. National safety efforts are but a total of the efforts of each community. Therefore, if traffic accidents are to be effectively reduced and prevented, the work must be carried on in every community.

Planning Community Programs

A primary aim of each organization affiliated with the National Committee for Traffic Safety will be building pub-

TO ALL SUBSCRIBERS — "TRAFFIC ENGINEERING":

Effective JULY 1st the annual subscription rate for TRAFFIC ENGINEERING magazine will be $2.00. The increase from $1.50 to $2.00 was decided upon at a recent meeting of the Institute of Traffic Engineers' Officers and Board of Direction.

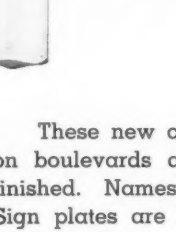
Subscriptions expiring between now and July 1st will be renewed at the regular rate of $1.50 per year.

These new attractive designs for use in suburbs or on boulevards are ruggedly constructed and durably finished. Names are embossed for greater legibility. Sign plates are rigidly held in formed metal housing.

•

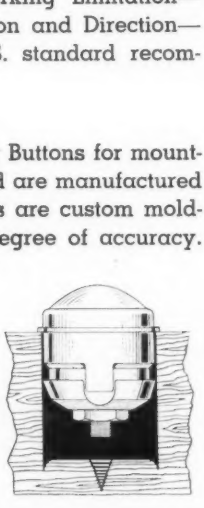
Reflector Signs and Signals—Parking Limitation—School—Stop—Speed Limit—Destination and Direction—Railroad Crossing—All meeting U. S. standard recommendations and specifications.

•



Fireball Reflector Buttons for mounting in metal or wood are manufactured in five sizes. Lenses are custom molded to an extreme degree of accuracy.

Metal reflector is permanently sealed to lens and housed within a heavy metal shell. This insures long life and efficient performance.



DURABLE — ECONOMICAL — SPECIFY FIREBALLS

THE GROTE MANUFACTURING CO.

Incorporated

BELLEVUE, KENTUCKY

lic support for official programs. Actually this building of public acceptance and support is one of the most important contributions which can be made. Officials cannot do an adequate job in traffic safety unless safety is desired by a substantial number of residents in the community. If a desire for good traffic management is present in the community, it must make itself evident through active support of the official program. One of the best methods of achieving this is through the concerted action of several organized groups such as are represented in the listing of organizations participating in the work of the National Committee.

An example of the kind of activities which are being planned is the National Brake Emphasis Program. Active direction of this is by the International Association of Chiefs of Police working through their members on the community level with the wholehearted backing of the organizations participating in the work of the National Committee. Nationwide publicity is being used to build public support for this concerted action on a specific phase of traffic control and vehicle conservation. This is the first attempt at uniform action on such a large scale.

Local Meetings Suggested

The following suggestions are offered for organizing and carrying through a community meeting in the interest of present and post-war traffic safety by activating the recommendations of the National Committee for Traffic Safety as published in the 20-page pamphlet "Danger—Traffic Jam Ahead."

Every effort should be made to have all members of the local unit present. Attendance by other residents of the community is highly desirable. The meeting should include local officials and civic leaders such as the mayor or city manager, chief of police, traffic engineer, safety council manager, newspaper editors and reporters, etc.

A copy of the sound slide film "Traffic Jam Ahead" may be secured on a free loan basis from your national headquarters or from the National Safety Council. This film graphically portrays post-war traffic problems and recommendations for solution as presented in the pamphlet "Danger—Traffic Jam Ahead." Sufficient quantity of a two-color folder "Stop—Traffic Jam Ahead" to distribute one to each person attending the meeting, is available for the meeting from the same source.

An outline of the aims of the National Committee for Traffic Safety can be requested when arrangements are made to obtain a copy of the sound slide film. Full information on these materials may be obtained from the National Committee for Traffic Safety, Room 960, 20 North Wacker Drive, Chicago, 6, Illinois.

★ ★ ★

Parking—Berkeley, California, has hired a planning consultant to assist in preparing a plan for the development of adequate off-street parking facilities adjacent to the commercial center of the city, and at the same time, develop a master street and highway plan and park and recreational plans. For off-street parking, Lewiston, Maine, has purchased for $18,000 a 250-square-foot lot in the business district for use as a city-owned off-street parking lot. The city spent something around $2,000 to make the lot usable as a parking place. Parking is for three hours but makes no charge.

Yale Traffic Bureau Activities

by T. M. MATSON, *Mem. I.T.E.*
Director, Yale Bureau of Highway Traffic

THE Yale University Bureau of Highway Traffic is definitely planning on resumption of training this Fall, providing war conditions will permit. To this end it is collecting training materials which will fit into the following courses:

a. Traffic characteristics.
b. Highway traffic regulation.
c. Traffic planning.
d. Traffic design.
e. Driver-vehicle behavior.
f. Traffic control devices.
g. Traffic administration.
g. Practical traffic problems.

Several of the courses will have field and laboratory periods, as well as the preparation of reports on assigned subjects. Students are required to prepare an essay which indicates capacity for advanced work and insofar as possible will prepare a contribution of original value in highway traffic.

The Bureau of Highway Traffic is cooperating with the F.B.I. in the training traffic portions of the National Police Academy which involves three weeks of traffic instruction to some 240 men per year.

The Bureau is also assisting in training selected men from the F.B.I. in traffic engineering. This latter work is carried out while the men are in residence at Yale. Mr. Wilbur Smith represents the Bureau in this work.

Mr. Fred Hurd who recently joined the Bureau staff, coming to New Haven from the State Highway Department at Lansing, Michigan, is busily engaged in collecting, analyzing and classifying traffic training materials for the program to be resumed in the Fall.

The Bureau of Highway Traffic is also cooperating with Northwestern Traffic Institute in providing instruction at Northwestern for some thirty-six lecture hours of traffic engineering work to the regularly enrolled class at Northwestern.

Mr. Bruce D. Greenshields of the Bureau of Highway Traffic, is busily engaged in the analysis of traffic movement through urban intersections. Mr. Greenshields is applying the photographic technique in this study. It is expected that some publication will result from his studies in the near future.

Further, the Bureau of Highway Traffic has recently engaged the services of Mrs. H. G. Cassidy, an experienced Librarian, to classify and index the traffic engineering materials in the Transportation Library at Strathcona Hall. Mrs. Cassidy has developed a very good system of classification and it is hoped that in the not distant future the materials on hand, together with the library materials to be acquired, will be fully classified and available for use, not only for the students and staff at Yale, but also for practicing traffic engineers in the field who are invited to correspond with the Bureau for technical information of subjects of current interest to them.

★ ★ ★

Autopia—There are 45 highway grade separations but only 14 traffic signal installations in Arlington County, Virginia.

WHAT HIGHWAY ENGINEERS say about TRAFICOUNTERS

Many state and city highway engineers are using Streeter-Amet Traficounters. Here's what some of these engineers say about them:

1. "Our seven portable traffic recorders are used periodically for traffic counts on urban streets and for determining changes in traffic at scattered points on our rural highway."
2. "We use mechanical counters almost exclusively in our work and have been doing so for several years."
3. "We use them for continuing traffic survey on State Trunk system; preparing for a traffic survey of secondary and feeder roads, and possibly municipal streets. Mechanical counting equipment is indispensable in this type of work."
4. "We are now using ten of your model RC Traficounters and are well pleased with their performance."

Write for a complete Bulletin

STREETER-AMET COMPANY
4105 Ravenswood Avenue
Chicago 13, Illinois

Traficounter

TUTHILL HY-WAY GUARD
The Spring Cushions the Post
Plan Tomorrow's Highway Today
and include in your Specifications—
TUTHILL HIGHWAY GUARD RAILS
TUTHILL Guard Rails possess these unusual features:
1. High visibility.
2. Deflective action.
3. Absorption of impact.
4. Quick installation.
5. Low upkeep costs.
SPECIAL NOTE!
TUTHILL Guard Rails are now available!
DON'T delay until the last minute the important decision regarding a PROPER Guard Rail to make safe, beautify and economize on your highway safety program, for post-war—and now! TUTHILL stands ready with a BETTER Guard Rail to fill your post-war and present needs in highway construction.
Pacific Coast Manufacturers and Distributors
U. S. SPRING & BUMPER CO.
LOS ANGELES, CAL.
TUTHILL SPRING COMPANY
764 POLK ST...CHICAGO 7, ILL.

JAYCEES ATTACK "TRAFFIC PROBLEM"

Thousands of JayCees throughout America will rally to the call of the National Safety Committee of the U. S. Junior Chamber of Commerce to curb the nation's traffic toll and *Hold That Line.*

In a comprehensive program to enlist the support of Junior Chambers of Commerce in every community in the prevention of traffic accidents, the U. S. J. C. C. Public Safety Committee, under the direction of Angus Cockrell, chairman, has compiled and published the manual *Hold That Line,* which outlines a step-by-step program for community traffic safety activity.

The United States Junior Chamber of Commerce is one of the 48 national organizations sponsoring a nationwide "Program for Post-War Traffic Safety." The plan of action outlined in the manual, *Hold That Line,* has been prepared to aid JayCee organizations in giving the agreed expression to this sponsorship. The entire program is designed to aid the officials and official agencies and to supplement their efforts. There is no intent to duplicate existing programs.

Kenneth B. Colman, chairman, Nation Committee for Traffic Safety, which is effectuating a "Program for Post-War Traffic Safety," recently commended the JayCee organization, and Chairman Cockrell for the traffic safety program outlined in the manual, and pledged the cooperation of the National Committee in the activation of the program. "JayCees are pledged to the purpose of civic betterment," Chairman Cockrell stated. "They must keep this pledge by action."

Members of the JayCee Public Safety Committee, in addition to

Chairman Cockrell, include, Frank Doughty, vice-chairman; Mearns T. Gates, president, U. S. J. C. C.; Bob Eastman, national director; Dwight McCracken (Mem., I. T. E.), Ted Hoppe and John B. Wilson.

The JayCee manual provides a check list of questions concerning problems affecting each community's safety program. According to the manual, the purpose of the check list is to suggest ways in which the community traffic safety activity and consciousness can be developed.

Containing 35 questions concerning six major phases of traffic safety, the check list, properly answered, can supply the blueprint for community safety organization dealing with the following problems: Organizing for traffic safety, traffic engineering, accident records and analyses, traffic law enforcement, school safety instruction and the adult education program.

When the check list is finished, the efficient Junior Chamber of Commerce will have a picture of the safety problems of their city. This can furnish concentrated civic work for many months of co-operative activity.

Traffic safety work can be selected in preferential order for action with a complete long range program ahead to serve the committee as a goal.

By intelligent use of the manual, *Hold That Line*, JayCee committees will be able to aid the work of various other civic agencies in the compilation of the traffic check list.

ENO FOUNDATION LAUNCHES STUDY

With streets, highways and motor vehicles deteriorated as a war casualty, with new peace-time speed and volume and the whole post-war traffic problem looming as greatly complicated and increased, the Eno Foundation for Highway Traffic Control has begun a cooperative study of traffic functions and of traffic and safety organization in the engineering and enforcement agencies of both city and state governments.

Results will be shared without designating any specific city or state, Wilbur S. Smith of the Yale University Bureau of Highway Traffic and the Eno Foundation, in charge of the study, explained.

Four sets of queries have been mailed to officials of city public works departments, city police departments, state police departments and state highway departments.

The undertaking was announced on February 1 by William Phelps Eno, founder and head of the Foundation, at Saugatuck, Conn.

"Many requests are reaching us for nation-wide procedures and experiences in traffic organization," Mr. Eno said. "The efficient movement of traffic, the saving of lives and property and a reasonable uniformity have long constituted a tremendous problem. With sharply changed post-war conditions, the planning and direction of traffic control will be a major concern of the nation.

"The problem is fundamentally cooperative. Traffic engineers, enforcement officials, highway engineers, legislators and the driving public need to understand each other and to help each other. If they understand each other, they can be counted upon to help each other," Mr. Eno said.

The first step in the Foundation study is to analyze and record existing methods for allocating traffic duties, selecting directors, determining promo-

tions and other aspects of traffic organization, Eno officials pointed out.

Reports of these findings will be furnished to public officials without specifying areas. A report will also be sent to every official furnishing a part of the information.

In commenting on the importance of the study, Mr. Upham, vice-president of the Eno Foundation, said:

"Roads and streets will be far less adequate for post-war traffic than they were for the traffic of 1941. Unless extraordinary speed is made in rehabilitating them and in building additional modern roadways, extremely high death and accident rates will be a certainty. Highways must be built and safety work conducted on a scale never before achieved."

Mr. Eno pointed out that in 1943 the property damage alone from motor vehicle accidents was estimated at $550,000,000—and that deaths and injuries to persons have totaled more than a million a year.

"This toll can be greatly reduced and traffic movement greatly facilitated," Mr. Eno said, "by sympathetic cooperation between traffic, highway and enforcement personnel, by sympathetic understanding on the part of the public, by efficient organization for the work and by a recognition of its importance by administrators."

POST-WAR ROAD CONSTRUCTION PLANS

As of January 1, 1945, the values of roads and streets construction projects being planned, by states, are: New York, $260-million; Pennsylvania, $143-million; Texas, $130-million; California, $101-million; Washington, $86-million; Ohio, $77-million; Connecticut, $63-million; New Jersey, $62-million; Michigan, $60-million; Maryland, $43-million; Indiana, $40-million; D. C., $34-million; Me., $32-million; Mo., $23-million; Neb., $20-million; Ill., $20-million; Ore., $18-million; Va., $15-million; Colorado, $13-million; Fla., $12-million; Tenn., $12-million; Wisc., $10-million; Utah, $9-million; Minn., $9-million; Iowa, $8-million; Ariz., $7-million; S. C., $5-million; Nev., $5-million; N. H., $3-million; Ala., $2 million; Mass., $2-million; Wyo., Kan., Okla., Ky., $1-million each; and Ga., Idaho, Miss., N. M., N. C., R. I., S. D., Vt., W. Va., each under one million dollars. These are given in round numbers, to the nearest million.

The 44 states projects enumerated above total $1,330,763,000. This report was prepared by the Committee on Post-war Construction, A.S.C.E., from statistics gathered and furnished *by Engineering News-Record.*

★ ★ ★

Auto Demand—The demand for automobiles in the post-war period may be 1½ times that of the best pre-war years, President Wilson of General Motors Corporation told the Congress of American Industry at the recent annual meeting of the National Association of Manufacturers. . . . He estimated such an increase would lift General Motors direct employment to 400,000 against a pre-war peak of 250,000. . . . President Hoffman of Studebaker Corporation declared that the U. S. output of goods and services must be raised 30 to 45 per cent over 1940, to achieve full employment after the war.

ITE NEWS AND PERSONALS

Washington Section

Twenty-five members and guests attended the dinner meeting of the Washington, D. C., group on February 28, its first meeting following its recognition by the Board of Direction as the official Washington Section of the Institute of Traffic Engineers. It was voted that C. W. Prisk and W. G. Eliot should continue in office as President and Secretary-Treasurer, respectively, for the remainder of the current year, while C. G. Stoneburner was elected to the newly-created office of Vice-President.

E. H. Holmes, of the U. S. Public Roads Administration, spoke on "Housing Developments and Express Highways", with particular reference to the housing developments served by the new Shirley Highway in nearby Virginia.

The Washington Section membership now includes 34 out of the 40 Institute members living in Washington and vicinity.

Present at the February 28 meeting were:

Members

Earl Allgaier
E. A. Barton
W. F. Boardman
C. F. Cashell
W. W. Davis
J. B. Ecker
M. O. Eldridge
W. G. Eliot
Sec'y-Treas.
H. F. Hammond
E. H. Holmes
T. T. McCrosky
J. H. Mitton
C. W. Prisk
President
W. L. Robinson
H. C. Stark
C. G. Stoneburner,
Vice-President
P. J. Stupka
P. E. Taylor
C. M. Upham

Guests

W. L. Groth
W. B. Hampton
Wilbur Smith
J. G. Trapnell
H. L. Toadvine
R. S. Wilfong

New York Metro. Section

The March 28 meeting of the New York Section was attended by twenty-one members and guests at the George Washington Hotel in New York City.

Guy Kelcey of the Port of New York Authority presented a discussion of the Federal Aid Highway Act of 1944. He brought out the ways in which this Act favors urban areas. As an example, under the old formula a Nevada city of 10,000 would get $69.86 per person while in a 10,000 pop. Massachusetts city it would be 74 cents. Under the new formula, it would be $7.00 per person in either city.

Captain E. F. Clark, recently discharged from overseas duty with the transportation corps, told of a few of his experiences in France. Harold Hammond read aloud a letter from Jim Hayden, who recently became a civilian highway traffic engineer with the transportation corps.

The remainder of the evening was spent working out a constitution and by-laws for the Section. Present were:

E. F. Clark
Nathan Cherniack
John Gibala, *Vice-Pres.*
Bruce Greenshields
Harry Koch
T. M. Matson, *Pres.*
Robert Mitchell
Guy Kelcey
Henry Evans, *Sec'y*
Julien Harvey
Richart Siver
Fred Hurd
Virden Rittgers
Harold Hammond
Thomas Boate
Charles Lenz
Herbert Taylor
Harold Weston
John O'Mara
Henry Elliot
Don Opstad

E.T.O. Section Meets in Paris

The European Theater of Operations Section (unofficial), I.T.E., reports that it held its first meeting in the St. Augustin Hotel, Paris, France, on February 13th with an attendance of 7 members and 2 guests. All in attendance were recently appointed Civilian Highway Traffic Engineers attached to the U. S. Army Transportation Corps in this Theater.

Dinner followed a gathering of the clan in the bar where champagne and cognac flowed sufficiently freely to get the meeting off to a warm start. Featured speaker of the evening was Tom Walbert, who had dropped into town on business from somewhere in Belgium. Tom, being the grandfather of the group (two months in the E.T.O.) gave some very interesting and helpful advice to the newcomers who had recently arrived.

Various reports were received on the excellent work of the I.T.E. members who are commissioned officers in this theater. It was the hope of everyone present that all the I.T.E. members in the theater would get together following hostilities.

Regret was expressed by all that two other I.T.E. members who were in Paris on the day of the meeting were unable to be present. Russ Harrison was in town for only a few hours and had to return to his base. Major Gordon Gravelle had just returned from an extensive survey and inspection trip and was preparing his report and recommendations.

Following the closing of the formal phases of the meeting, the members took an unscheduled inspection trip of "traffic" conditions in the Montmarte District after dark.

Of the members present only three had been permanently located, Walbert in Belgium, Wilcox in Seine Base and Shoaf in OCOT Headquarters, the latter two working out of Paris. The others in attendance were "sweating out" either assignments or transportation to their assignments and were to be on their way in a few days.

The next scheduled meeting of the Section (?)—who knows. There probably will never be a time when so many members are in the same place or have the time available to meet under such favorable conditions while in the E.T.O.

Members present included, Tony Carrothers, Neal McCandliss, Paul Robinette, Ross T. Shoaf, Tom Walbert, Dick Wilcox, and Dick Wilson

Guests (also Civilian TE's) present, were, W. R. Bellis(formerly with N. J. Highway Dept.) and J. P. Murphy (Detroit, Mich.).

Rochester Traffic Survey Report

Leon R. Brown (Mem., I.T.E.), Research Engineer and Ass't Secretary, Rochester Transit Corporation, directed the annual 1944 Rochester Traffic Survey, which is summarized in a 24-page report published by the Rochester Engineering Society and the Real Estate Board of Rochester, N. Y. Brown is chairman of the Engineering Society Traffic Committee.

The survey included a Parking Survey, Vehicle Volume Count, a Cordon Count, and a Pedestrian Volume Count.

In the parking survey, about 19% of the cars parked at meters were found to be in violation of time limits.

The report states that Rochester traffic now exceeds that of one year ago.

Recommendations include 1, Channelization; 2, Better Street Lighting; 3, Street Widening and Extension; and 4, New and Better Traffic Control Devices.

PERSONALS

Edward I. Shulman (Jun. I.T.E.) writes from overseas "The I.T.E. greeting card and membership roster finally caught up with me at this southwestern Pacific Naval Base nearly 10,000 miles from New York City . . . please send my mail to 9304 N. Martindale, Detroit 4, Mich. The war activity out this way has been swift and effective. Censorship prohibits me from relating more about my work."

Lt. Col. Arnold Vey (Mem. I.T.E.) and **Capt. James Darrell** (Assoc. I.T.E.) were recently transferred to overseas duty with the Transportation Corps.

Henry W. Osborne (Mem. I.T.E.), Buffalo City Traffic Engineer, writes "We have had a very busy winter here in Buffalo keeping things moving. Snow conditions nearly paralyzed every community activity. In fact, the New York State Guard was called out for fourteen days to help dig the railroads out of the mess. Being an officer, I was mobilized and had charge of distribution of troops by motor bus to many places on the Niagara Frontier and the Armory looked like a Greyhound Bus terminal."

"I read, with much interest, a recent issue of TRAFFIC ENGINEERING about front line traffic engineering and came to the conclusion that we here at home have had just as big a problem with staggered hours, share the ride, emergency conditions as related above, scarcity of materials to do a traffic engineering job which is a must, even when you only have a tooth brush and a can of paint to do a job with. I think I could write a book on home front traffic and transportation activities during the war period."

Edward G. Wetzel (Assoc. I.T.E.) has been promoted to Lt. Colonel. He is in the European theater of operations with the Transportation Corps.

Lt. Col. Paul Ristroph (Assoc. I.T.E.), in Washington, D. C., has been designated a member of the General Staff Corps.

Brig. Gen. Alexander Hayton (Affil. I.T.E.), on leave, Chief Traffic Officer of Johannesburg, South Africa, is a prisoner of war of Germany according to a letter just received from his wife. Quoting, "He was captured and taken to Italy where he remained for nearly two years. When Italy capitulated he escaped and was for 2½ months in the hills of Italy. He was recaptured about 20 miles from the British lines and taken to Germany. In case anyone would like to write to him, his address is: South African Prisoner of War, P.W. Number 1739, Olfag X11B, Germany.

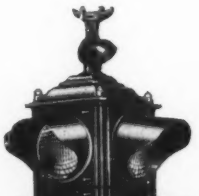
George Barton (Mem. I.T.E.), overseas on leave from the Chicago Motor Club, was recently promoted to Lieutenant Colonel.

Robert Swain (Assoc. I.T.E.), with the Army Engineers from the Texas Highway Department, was recently promoted to Captain, A.V.S.

Wortham Dibble (Assoc I.T.E.) overseas, on leave, S. C. Highway Dept., was recently promoted to Captain, A.V.S.

Captain Winston H. Carsten, formerly of the Traffic Engineering Department, State of Washington, writes from overseas:

"Our regiment among others was assigned the job of maintenance and repair of the Red Ball Highway last year, a stretch of road from Cherbourg to the front lines, via Paris, Rheims and Verdun. On this highway it became necessary to do a lot of traffic engineering during the maintenance and repair opera-



TSW-443-D Four-Way, Three-Section Non-Adjustable Traffic Signal

Type GS-3 Synchronous Controller

The Crouse-Hinds Company makes a complete line of non-adjustable and adjustable traffic signals from one to six faces and from one to four or more sections, and the signals may be equipped not only with red, amber, and green lenses, but with arrow lenses, WALK and WAIT lenses, all conforming to the specifications of the Institute of Traffic Engineers.

The Crouse-Hinds Type G controllers are made for non-interconnected, future interconnected, and interconnected operations and the new Type K controller is made for non-interconnected operation only.

For complete information and Catalog, write to the Crouse- Hinds Company, Syracuse 1, New York.

CROUSE-HINDS COMPANY

SYRACUSE 1, NEW YORK, U.S.A.

tions. As regimental adjutant I had little time to get out on the highway but did manage to make a few suggestions in the nature of traffic engineering improvements."

J. S. Baker (Assoc. I.T.E.), Planning Engineer, National Safety Council, writes:

"Just a note to say that the parking symposium issue of TRAFFIC ENGINEERING really jogs the magazine up into the field of a technical as well as an association publication. It's the kind of thing that will do a world of good to the Institute, not only by raising its prestige from the technical viewpoint among members and outsiders, but also by making the magazine a 'You-don't-throw-it-away' publication."

My sincerest thanks for your interest and appreciation.—Editor.

Ross Shoaf (Assoc. I.T.E.), now overseas as a Highway Engineer attached to the Army Transportation Corps, writes:

"Since we had our Paris meeting, Robinette and Carrothers and Bellis have left for points in southern France and Murphy has gone to northern France. In the event that you don't have the address of any of the civil's in the Transportation Corps I will be able to either get it for you or forward mail to them as long as I'm here in Paris."

"My coming over here has been a real experience and one which I don't think I'll ever regret. There were times when I questioned it but now I'm getting the swing of things and keeping busy."

Capt. Oscar Gunderson (Mem. I.T.E.) overseas with the Army Transportation Corps, writes:

"Kirk Keegan told me that on a recent trip to Paris he saw Jim Hayden. Kirk was wearing colored glasses on his return so draw your own conclusions."

"Others here included: George Grotz—in movements; Taylor Lewis and Ted Loveless—in engineering and control. Reynolds Weaney is here part time on liaison work. Yost and Wetzel paid us a call about 10 days ago."

"I hear a rumor that after the war the I.T.E. is going to serve powdered eggs at the Biscuit Banter breakfast and "C" rations at the Banquet—anything to it?"

MEMBERSHIP APPLICATIONS

The following persons applied during period Feb. 6 to March 9, 1945:

For Admission

James S. Burch
Irvin E. Hibbs
Allan R. Pepper
Walter C. Peterman

For Transfer in Grade

Herman J. Hoose (From Junior to Member)

Fred W. Hurd (From Junior to Member)

Alfred M. McCandliss (From Junior to Associate)

MEMBERSHIP ELECTIONS

The following men were elected to membership or transferred to higher grade on February 6, 1945.

New Members

Saville Dorman, Traffic Engineer Johannesburg, South Africa

W. F. Boardman, Traffic Engineer Capitol Transit Co., Wash., D. C.

William Kavanaugh
Syracuse City Traffic Engineer

Merton Ridge, Asst. Safety Dir. U. S. Eng., Oak Ridge, Tenn.

F. W. Taylor, Traffic Director Oregon Shipbuilding Corp. & Kaiser Co.

★ ★ ★

Illinois Traffic—Total traffic on Illinois rural primary highways in the three-month period of July, August and September 1944, was 46 per cent less than in the corresponding period of 1941 and 5 per cent less than a year ago. . . . The seasonal traffic peak was obtained in August as usual, but was much less pronounced than in previous years. . . . August traffic was only slightly greater than in July and September.

F. B. Wood, Traffic Engineer
N. Y. State Traffic Commission

New Junior

1st. Lt. D. S. Macdonald
Hyde Park, Mass.

Reinstated Member

F. M. Reynolds, Traffic Engineer
Calif. Division of Highways

Transfers

From Associate to Member

F. B. Crandall, Traffic Engineer
Oregon Highway Dept.

From Associate to Member

Andrew J. Watson, Jr.
Penn. Dept. of Highways

From Junior to Associate

A. Glenn Smoot, Traffic Engineer
Arizona Highway Dept.

NEWS FROM HERE AND THERE

Hal Sours Enters Equipment Field

Hal. G. Sours, former state highway director of Ohio and past president of the American Road Builders Association, has formed a partnership with Eugene E. Baldwin of Taylor & Baldwin, Columbus, Ohio, to handle highway materials and equipment.

Mr. Sours has been in highway work in Ohio for the past 24 years, having started as maintenance superintendent in Summit County in 1919 following his discharge from the Army. He was named assistant director and chief engineer of the Ohio Highway Department in 1939 and in 1940 became director. He served as president of the A.R.B.A. in 1940-41 and is a vice-president of the A.A.S.H.O.

National Safety Council Staff Additions

Richard O. Bennett has joined the staff of the National Safety Council as a field representative with the traffic and transportation division. As 1st Lieutenant in the Army Transportation Corps, he served in Africa, Sicily, and Italy before being placed on Inactive status. Bennett was formerly in charge of the traffic division, Lincoln, Nebraska Police Department, Director- Secretary of the Lansing Safety Council, and Director of Safety Personnel of the Great Lakes Greyhound Lines, Inc., before going into the armed services.

Another addition to the Traffic and Transportation Division is Ross G. Wilcox, whose title is Assistant Traffic Engineer. Wilcox has been discharged recently from the Navy, having served as an Ensign in the U. S. N. R. He graduated in Civil Engineering from Iowa State College, and has done some work with Professor Moyer. He was employed in Curtis Wright prior to military service. Wilcox will work with the Committee on Winter Driving Hazards, as his continuing activity. He will, of course, be working on a good many other things, including the engineering phases of the National Traffic Safety Contest.

★ ★ ★

"If a man had two cows, under the different forms of government, he would do the following:

Socialism—Give one cow to his neighbor.

Communism—Shoot one cow, milk the other, give the milk to the government and the government would sell it back to him.

Nazism—The government would shoot him and take the two cows.

New Dealism—Shoot one cow, milk the other and pour the milk down the drain.

Capitalism—Sell one cow and buy a bull."

Fair enough?

ON THE SHELF

"Chicago Looks Ahead"

This is the title of a new publication just released by the Chicago Plan Commission, showing proposed public improvement designs and plans. Total cost of the proposals is 947 million dollars, of which Rapid Transit is largest with about 175 millions and Expressways are next with over 167 millions.

Proceedings, First Connecticut Traffic Engineering Conference. The Proceedings were prepared as a result of a five-day conference of state and local officials which was held last Spring at the Yale Bureau of Highway Traffic. As a result of this conference, the engineers attending formed a committee for the purpose of continuing this form of training in Connecticut. 131 pages.

Proceedings, First Ohio Traffic Engineering Conference. The two-day conference was held in Columbus, Ohio, Oct. 25-26, 1944, co-sponsored by Ohio Traffic Safety Council, Ohio Department of Highways, and the Ohio State Automobile Association. 90 pages.

Traffic Engineering Report and Analysis of Traffic Accidents, 1943. An 84-page report of the City of St. Louis, Mo., Department of Streets and Sewers covering St. Louis for 1943.

A Method of Making Short Traffic Counts and Estimating Traffic Circulation in Urban Areas. A 57-page printed bulletin of the University of Wisconsin, College of Engineering. This was prepared under direction of the Barney Link Research Fellowship established at the University by the Outdoor Advertising Association of America. The bulletin is written in a non-technical manner, and is full and detailed with many formulae and charts.

★ ★ ★

INSTITUTE ACTIVITIES TEN YEARS AGO

Items from Traffic Engineering, April 1935 issue

Dwight McCracken is now Highway Safety Supervisor on the staff of the Liberty Mutual Ins. Co. of Boston. For the past year he has served as Traffic Auditing-Engineer of Southern Calif. for the Traffic Audit Bureau, of N.Y.C., of which Miller McClintock was Technical Director. Prior to that time he served as traffic engineer on the Mass. Highway Accident Survey, directing Safety studies for the Mass. Dept. of Pub. Safety and acting as traffic advisor to the Commissioner of that department. He was a Research Fellow in the Albert Russel Erskine Bureau for Str. Traffic Research at Harvard Univ. and is now an Associate Member of the INSTITUTE. He is the author of METHODS FOR STUDYING STREET TRAFFIC CONTROL PROBLEMS, THE MUNICIPAL INDEX, 1934, and TRAFFIC REGULATION IN SMALL CITIES, published by the Municipal Administration Service, 1931, N.Y.

The following new membership applications:

Herman L. Engelhardt.

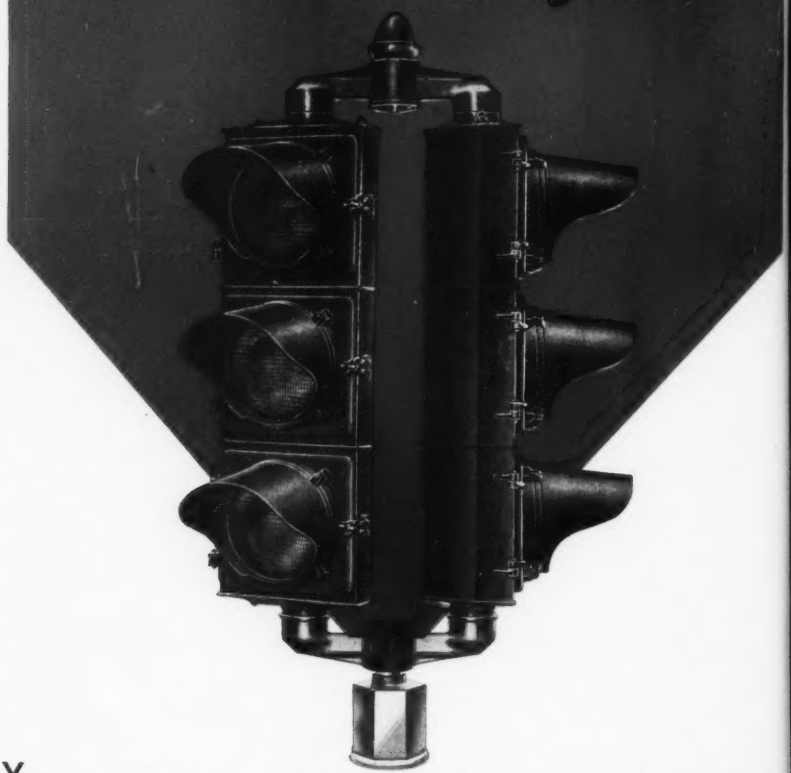
Membership Transfers:

Charles H. Rex and Peter J. Stupka have been transferred from the grade of ASSOCIATE to the grade of MEMBER, and D. Grant Mickle from the grade of JUNIOR to the grade of ASSOCIATE.

The Editor wishes to express grateful apppreciation to his friend and associate, Frank B. Curran. During the last few months we have been under a great pressure of work and Mr. Curran, although not a member of the INSTITUTE, has given great assistance in the preparation of Traffic Digest and Traffic Engineering.

MARBELITE

Better Built Signals



YOU can determine by just looking at this advanced design of a Two Way, Three-Color adjustable Signal that it is BETTER-BUILT.

Note the reinforced aluminum mounting brackets that replace the conventional pipe and fitting assembly. A compact, sturdy arrangement, eliminating small, minor parts.

You bet! It is BETTER-BUILT quality.

That isn't all, but it gives an idea of why Marbelite Signals are approved by numerous State and City Traffic Departments as well as Traffic Associations, and why there are so many thousands of Marbelite Signals in use in these Cities and States.

Familiarize yourself with other Marbelite features, such as the unbeatable optical unit. You will be proud to have such fine quality Signals regulating traffic in your community.

THE MARBELITE COMPANY, INC.

26 WARREN STREET **NEW YORK 7, N. Y.**